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ABSTRACT

Described is an hour-long learning session on environmental assessment that is designed to help citizen advisory groups improve decision making in water quality planning. The instructor's guide addresses: (1) environmental considerations in water quality planning, and (2) the identification of primary and secondary impacts of wastewater projects. A supplementary aduiovisual program is available. These materials are part of the Working for Clean Water Project. (Author/WB)

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Working for Clean Water

An Information Program for Advisory Groups

Environmental Assessment

Instructor Guide

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION

X

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EPA

SE 035 552

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This project is dedicated to the memory of Susan A. Cole.

Environmental Assessment

Impact assessment is not a new idea. Almost all decisions are based upon the evaluation of possible efforts or impacts. An innovative change involves the role of statutes, and the explicit incorporation of impact assessment into planning functions. The assessment of environmental factors is required in developing water quality management plans.

Two kinds of impacts are basically involved: Primary impacts and secondary impacts. Impacts that are directly associated with the construction and operation of pollution control facilities are called primary impacts. Dust occurring during construction, and algal growth below effluent outfalls during operations are such effects. Secondary impacts are indirect effects that are induced by water quality actions. Examples of these effects include growth and land use changes resulting from the installation of wastewater treatment facilities.

The objectives of this unit are:

- Discussion of environmental considerations and factors in water quality planning
- Identification of primary and secondary impacts of wastewater projects.

Required Materials

- ☐ Set of 35mm slides with cassette tape for the audiovisual presentation entitled: "Environmental Assessment"
- ☐ Slide projector, cassette tape player, and screen
- ☐ Chalkboard or flip chart with easel, and/or transparencies with overhead projector
- ☐ Copy of the handbook, "Environmental Assessment," for each participant
- ☐ Copy of Appendix materials for each participant
- ☐ Map of the local area.

Important Notes

1. Several instructional options exist. The instructor may:

   a. Show the slide-tape program without substantive discussion

   b. Assess the environmental effects of local alternative plans

   c. Identify the secondary environmental effects of a wastewater treatment project in a hypothetical community.

Any combination of these options may be used. If all the instructional options are selected, a one-hour session will be insufficient.

2. In consultation with area or state water quality personnel, the instructor should be knowledgeable about the local environmental situation, including the constraints and unique resources associated with possible alternative water quality plans.

3. Sufficient copies of the appropriate Appendix sheets should be prepared for all the participants. The sheets are included in this instructor guide.

4. If the exercise on secondary environmental impacts for a hypothetical community is chosen, the transparencies of the maps should be colored to show principal features. Also, the instructor must be very familiar with this case study when leading a discussion.

5. The audiovisual presentation script and/or the slide-tape program should be previewed for items of local concern that may warrant discussion.

6. An effective approach for handling this exercise is to draw out the participants so that their experiences can be shared with the rest of the group. The instructor must be sensitive to these concerns. Skills such as asking open questions can be helpful in leading discussions. Open questions are questions for which there are no predetermined answers.

Suggested Activities

Introductory Comments	5 minutes
Audiovisual Presentation	10 minutes
Guided Discussion (Selected Options)	40 minutes
Closing Remarks	5 minutes
TOTAL TIME	60 minutes

Introductory Comments (5 minutes)

1. Including environmental considerations in water quality planning results in several benefits:

Use chart 1 on the Benefits of Environmental Assessment.

- Incorporation of environmental amenities and values in decisions
- Protection of cultural, historic, and natural resources
- Broad basis for determining costs for tradeoffs of proposed projects.

2. Environmental factors involve numerous natural resources, cultural features, and sensitive areas. Those of potential local significance should be mentioned.

Use chart 2 on Environmental Factors.

3. These factors are evaluated concurrently with other activities such as monetary costs and system reliability in the water quality planning process.

Use chart 3 on the Components of Plan Evaluation.

4. The audiovisual presentation gives additional insights into environmental assessments.

A/V Presentation (10 minutes)

1. Ask the participants to try to relate the information in the audiovisual presentation to the local situation. Relevant items in the slide-tape program may be mentioned.

Script is in Appendix if equipment malfunctions.

2. Show the slide-tape program entitled, "Environmental Assessment."

Guided Discussion (40 minutes)

1. Ask for impressions or comments about the audiovisual presentation before proceeding. In particular, follow up on the items that were pointed out prior to the audiovisual presentation.

Use handout 1 on Environmental Impacts.

2. If an environmental assessment of a local alternative plan is desired, the following activities may be performed:

   a. Using the map of area, review the local situation in regard to a specific alternative plan.

   b. Explain the meaning of primary and secondary impacts. Distribute an evaluation sheet on impacts to each participant.

   c. Assign participants to groups of three or more persons.

   d. Allow 20 minutes for groups to discuss the impacts, and make assessments of the local alternative plan. Comments or reasons for these judgements also should be briefly noted.

   e. Next, have the groups tell their evaluations and reasons. Encourage personal insights and observations.

3. One area of environmental assessment that often has insufficient attention is secondary environmental impacts. This exercise involves the secondary environmental impacts associated with an alternative plan for a hypothetical community called Colfus.

4. In determining secondary impacts such as community growth, several maps are used. These maps involve problems, areas of potential growth, growth constraints, and secondary impacts.

5. This exercise begins with a short presentation by the instructor on identifying problem areas associated with a proposed wastewater treatment alternative, potential growth areas, and growth constraints. Small groups of the participants then identify potential secondary impacts. A discussion of the findings of the groups completes the exercise.

Use handout 2 on the description of the community.

   a. Distribute a description of the Town of Colfus to each participant.

Use handout 3 on a map of the community.

   b. Give a base map of the community to each participant. Encourage them to note on their maps salient features about the community. For example, the route of the proposed sewer interceptor, problem areas such as soils of low permeability and growth constraints can be recorded on the map.

c. Briefly discuss the background of the community, pointing out that pollution problems can be due to different factors such as the failure of septic systems and agricultural runoff.

Use transparency made from base map.

d. Indicate the problem areas for Colfus by superimposing transparencies for the base map and the problem areas. Point out that Area A is due to the failure of dilapidated sewers in an old, high density residential and commercial section of town. Area B, a relatively recent development, is probably due to undersized sewers. The failure of onsite sewage disposal systems in Area C is because of high groundwater.

Use transparency of problem areas made from overlay master 1.

Show that the project service area encompasses the problems. Indicate the proposed interceptor route, and the site of the treatment plant.

e. Superimpose transparencies for potential growth areas based upon the municipal land use plan, and growth constraints. Point out the growth constraints.

Use transparencies of potential growth areas and growth constraints made from overlay masters 2 and 3.

f. Superimposing all the transparencies, ask the participants to attempt to locate, and possibly assess, the secondary impacts associated with the project.

g. Assign the participants to groups of three or more persons to study the secondary impacts.

h. After 20 minutes of small group discussions, have the groups give their findings and reasons.

i. Actually, the information is insufficient for assessing the impacts. The instructor should try to get the participants to realize this by themselves. About all that can be expected are speculations about the locations of possible impacts. However, this kind of exploration is an important early step in impact assessment.

j. Superimposing the transparency on secondary impacts over the base map, point out any potential impacts that the group may have overlooked.

Use transparency of potential secondary impacts made from overlay master 4.

k. There are no absolutely right or wrong answers. Impact assessment deals with uncertainties.

Closing Remarks (5 minutes)

1. Answer any remaining questions.

2. Summarize discussions pertaining to the local situation.

Environmental Assessment of Construction Grant Projects. FRD-5. EPA-430/9-79-007. Washington, DC: U.S. Environmental Protection Agency, January 1979. 58 pp.

This manual is designed to aid grantees in the preparation of environmental assessments for wastewater treatment facilities. Through a checklist format, it discusses the types of environmental factors which should be considered in environmental assessment. It has four chapters which deal with procedures for identifying and assessing impacts, types of pertinent man-made and natural features, hazardous or sensitive areas, and conservation of natural resources. Federal laws and regulations are mentioned, and the minimum and supplemental requirements of the assessments are given. Copies are available from: General Services Administration (8FFS), Centralized Mailing Lists Services, Building 41, Denver Federal Center, Denver, CO 80225. Give the FRD number and the publication title when ordering.

Environmental Assessment of Water Quality Management Plans. Washington, DC: U.S. Environmental Protection Agency, January 1977. 108 pp.

This report is designed to assist managers and staff of planning agencies in assessing environmental impacts of water quality management plants. In addition to an overview, chapters are devoted to land use, air quality, water quality, ecological, economic, visual quality, and social impacts. These chapters discuss parameters appropriate to the topic, baseline development, and assessment methods. Key questions about each topic also are featured. Copies may be obtained from the U.S. Environmental Protection Agency, Library Services, Mail Drop No. 35, Research Triangle Park, NC 27771. When ordering, give PDS No. 3471.

Leffel, R. Ernest, Direct Environmental Factors at Municipal Wastewater Treatment Works. EPA-430/9-76-003. MCD-20. Washington, DC: U.S. Environmental Protection Agency, January 1976. 104 pp.

This report is primarily limited to a few categories of impacts at municipal wastewater treatment facilities, but it does contain a good summary of evaluation and control measures of environmentally-sound projects. It has a comprehensive section on facility planning and site design. Other chapters discuss airborne pollutants, noise, and site problems. To order this publication write: General Services Administration (8FFS), Centralized Mailing Lists Services, Building 41, Denver Federal Center, Denver, CO 80225. Indicate the MCD number and the title of publication when ordering.

Rastatter, Clem L., ed., Municipal Wastewater Management: Citizen's Guide to Facility Planning. FRD-6. Washington, DC: U.S. Environmental Protection Agency, Office of Water Program Operations, January 1979. 263 pp.

This handbook is designed to acquaint citizen leaders with important decisions that need to be made in managing wastewater. The book: identifies key decisions throughout the planning process that are critical to the facility plan and the community; identifies environmental, economic, and social considerations affecting these decisions; facilitates citizen input and helps citizens understand the legal tools to facilitate their involvement. Regarding environmental assessment, the book focuses upon primary and secondary impacts, and mitigation measures. It is available from the General Services Administration (8FFS), Centralized Mailing Lists Services, Building 41, Denver Federal Center, Denver, CO 80255. Indicate the FRD number and title of publication when ordering.

Appendix

A. Contents of charts for use by the instructor in the suggested activities. These charts may be used to make transparencies or the contents may be copied onto flip charts.

1. Benefits of Environmental Assessment

2. Environmental Factors

3. Components of Plan Evaluation

B. Handouts for use by the instructor in the guided discussion. Copies will need to be made for each participant.

1. Environmental Impacts

2. Town of Colfus Wastewater Treatment Project

3. Town of Colfus Base Map

C. Transparency masters for use by the instructor in the guided discussion. In addition to the base map, several partial maps depicting various features about the community can be used for making transparencies.

1. Problem Areas and Proposed Alternative

2. Potential Growth Areas

3. Growth Constraints

4. Potential Secondary Impacts

D. Copy of the script for the slide-tape program entitled, "Environmental Assessment."

Assessment Benefits

Environmental values
Resources protection
Tradeoffs comparison

Environmental Factors in Planning

Natural features

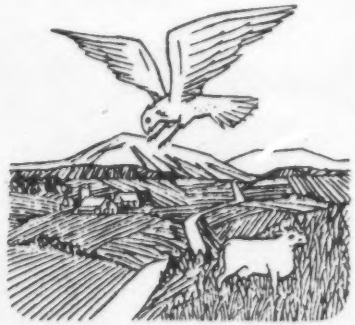
Surface and groundwater quality
Hydrology and water supply
Air quality
Soils and topography
Plant and animal communities
Noise and odors
Solid wastes
Energy resources

Cultural factors

Population
Housing
Employment
Transportation
Land use
Historical sites
Recreation and open space
Aesthetics

Sensitive areas

Endangered species
Flood plains
Wetlands
Coastal zones
Wild and scenic rivers
Agricultural areas
Earthquake zones
Steep slopes



Plan Evaluation Factors

Environmental effects
Economic effects
Monetary costs
Social effects
Implementation feasibility
System reliability
Goal satisfaction
Public acceptance

Environmental Impacts

Category of Impact	Degree of Impact				
	None	Insignificant	Minor	Significant	Comments
A. Floodplains					
B. Wetlands					
C. Coastal Areas					
D. Sensitive Areas					
E. Wildlife/Endangered Species					
F. Agriculture					
G. Parklands					
H. Historical/Archaeological Sites					
I. Wild and Scenic Rivers					
J. Water Quality/Quantity					
K. Air Pollution					
L. Noise					
M. Solid Waste					
N. Energy					
O. Transportation					
P. Socio-Economic Effects					
Other:					

Town of Colfus

Wastewater Treatment Project

Colfus, EPAsonia is a small community that serves as a commerce and transportation center for several surrounding towns. It is a community that has grown in sections. The access to the railroad and surface waters spurred early development in the southern section. Industrial development is occurring on the eastern side of town. Single family homes and commerce are located in the central part. The community has much residential land zoned for 1 dwelling unit/0.5 acre lots, but soils limit the onsite disposal of wastewater. Growth controls prohibit construction in wetlands, but have no restrictions on lands adjacent to wetlands or surface waters.

Wastewater Treatment Alternatives

An alternative is developed to meet wastewater needs. It follows the recommendations of the community master plan calling for sewer service to the older sections of the community and undeveloped areas on the west side of town with soil limitations for onsite septic systems.

The proposed treatment plant would serve an existing population of 10,000 and one major industry, Nutrient Products. The capacity of the treatment facility would be 1.2 MGD with a potential for expansion to 2.2 MGD.

Prime Area of Potential Secondary Impacts

Most development with or without the alternative will occur within the municipal boundaries of Colfus. There is, however, a potential for some induced "leap frog" development. Discussions with developers indicate that most of the small towns between the major city to the west and Colfus have adopted large lot zoning which limits moderate income housing opportunities. Sewering along with reduced lot sizes in Colfus would be a real growth attraction.

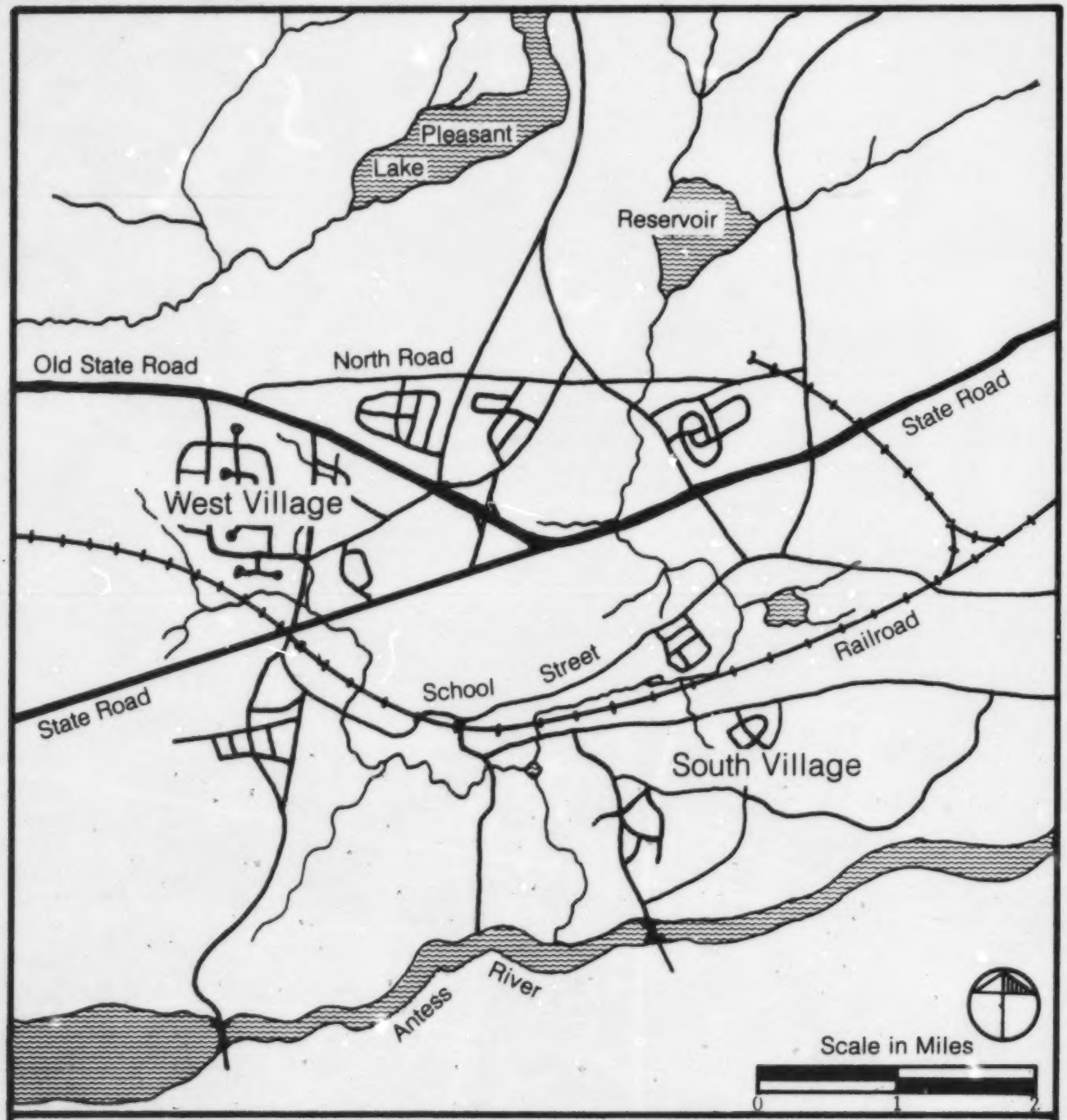
Growth and Growth Constraint Areas

The growth and growth contraints areas reflect natural resources and zoning. The central section of the community is almost completely developed or undevelopable due to streams, wetlands, and flood plains.

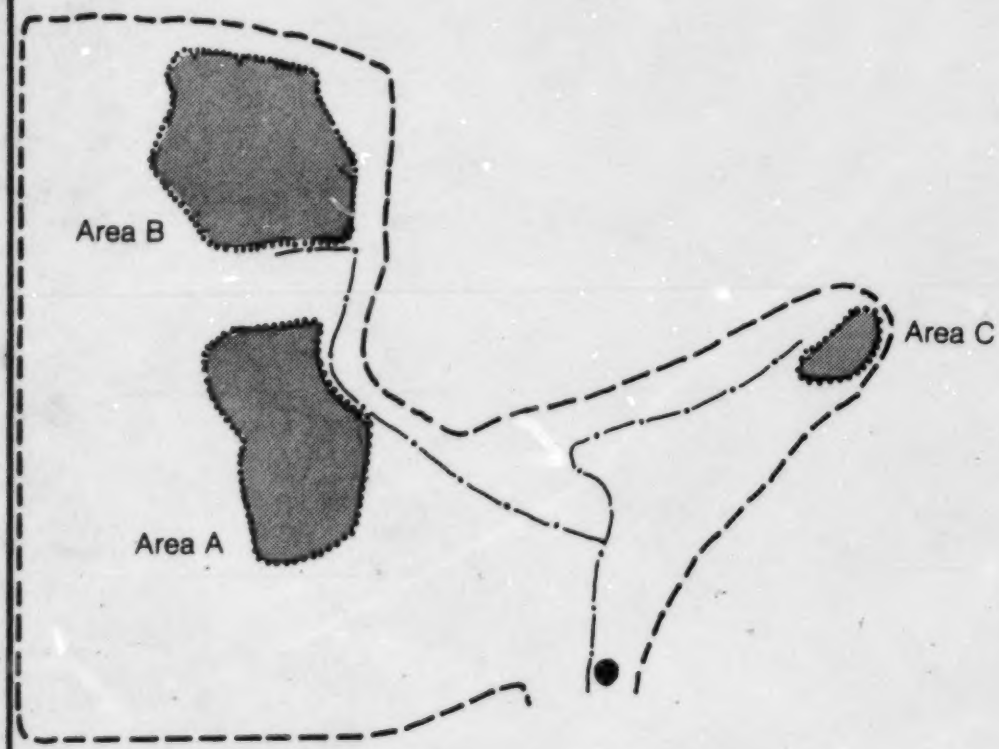
Potential Growth

Areas for potential growth exist both without and with the alternative. Without the alternative, growth would continue expanding to the north and east. With the alternative, growth would be redirected towards the west side of town in accordance with the Colfus master plan.

Adapted from Environmental Assessment Manual. Boston, MA: U.S. Environmental Protection Agency, Region 1, June 1978.



Town of Colfus

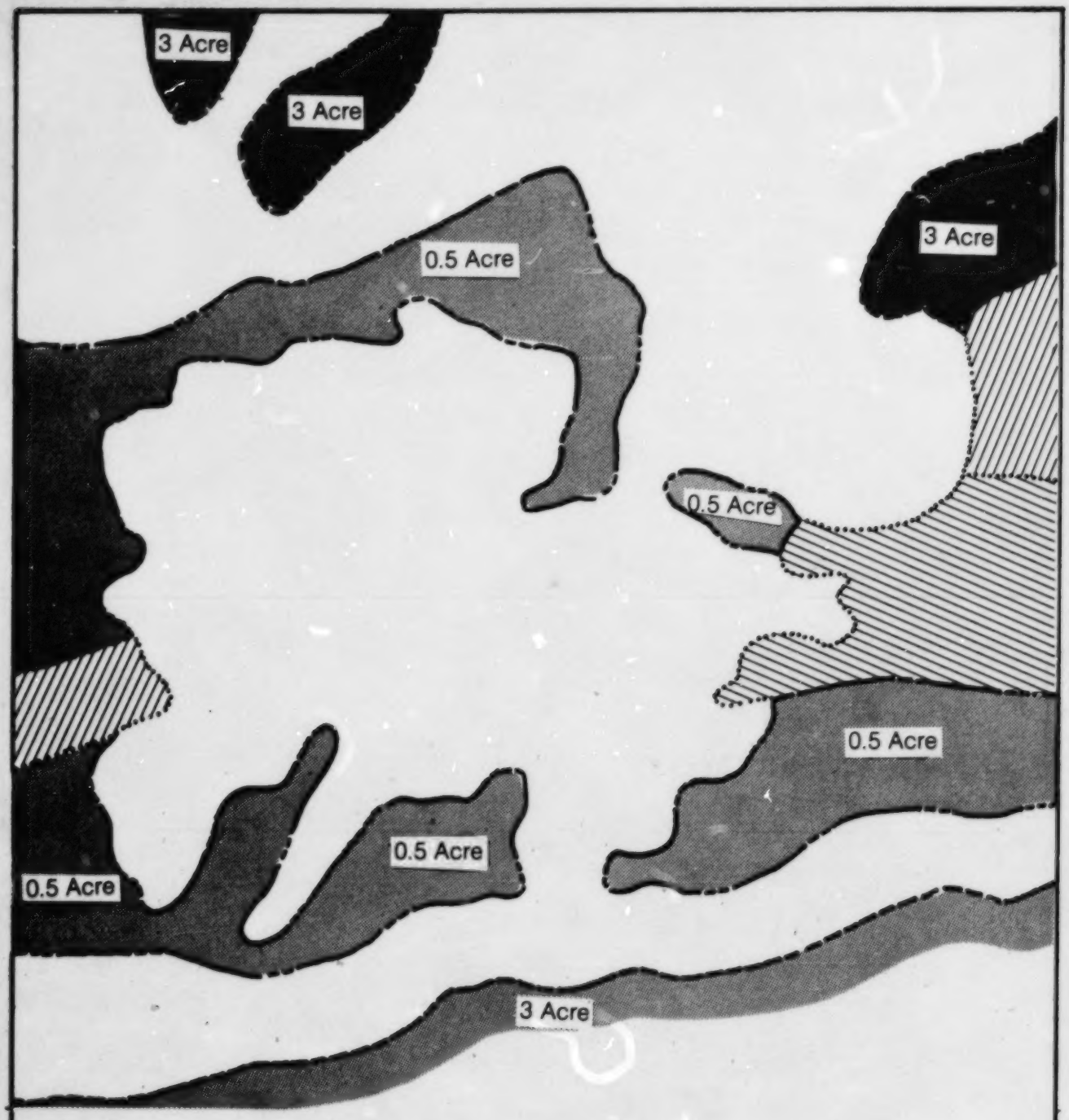


Town of Colfus

Problem Areas and Proposed Alternative

Interceptor Sewer
Service Area
Treatment Plant Site
Problem Area

15



Town of Colfus

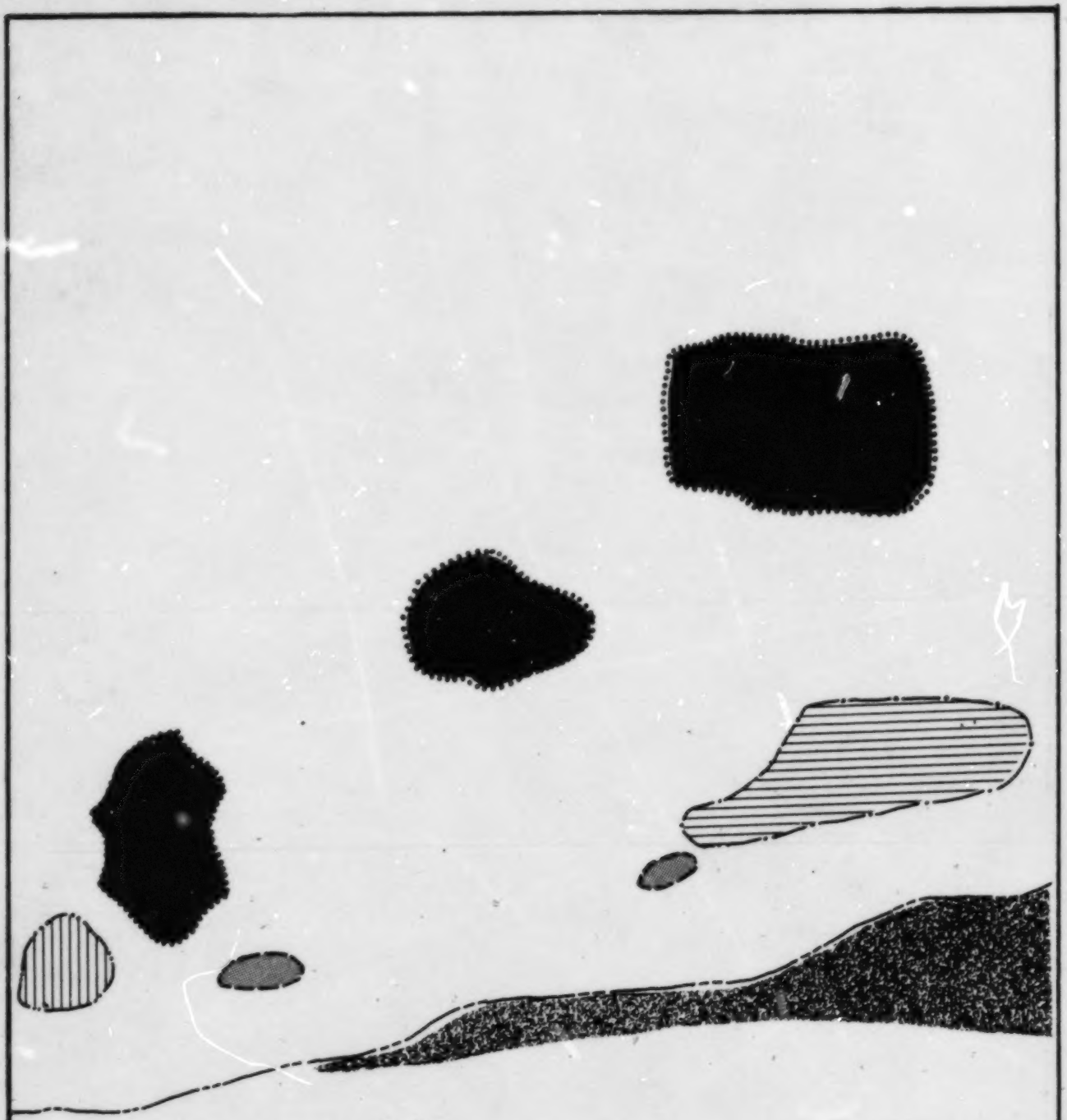
Potential Growth Areas

Commercial Zoning

Industrial Zoning

Residential Zoning

16

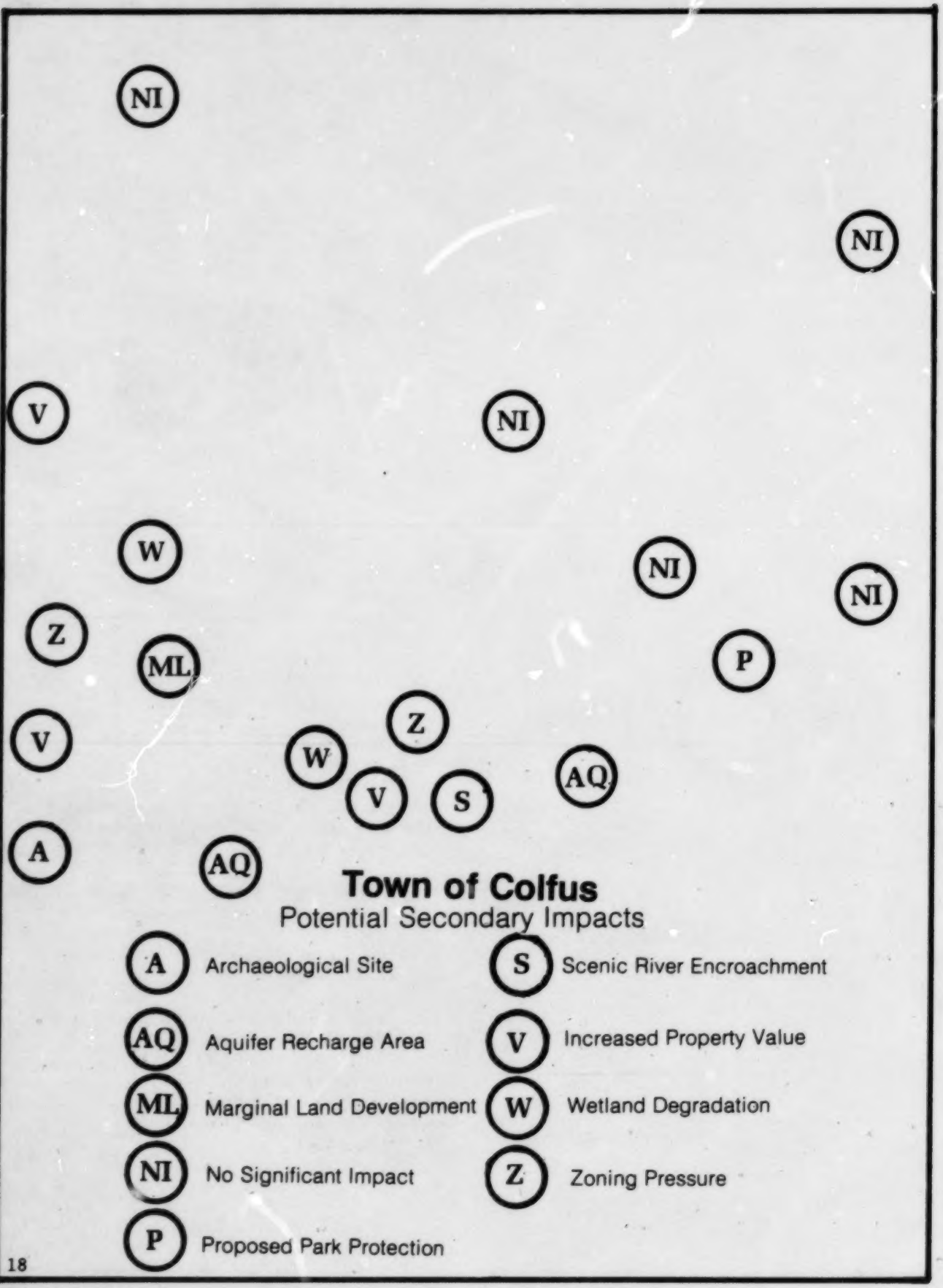


Town of Colfus

Growth Constraints

- Archaeological Site
- Proposed State Park
- Scenic View
- Slow Permeability Soils
- Prime Farmland
- Aquifer Area

17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Town of Colfus
Potential Secondary Impacts
A Archaeological Site
AQ Aquifer Recharge Area
ML Marginal Land Development
NI No Significant Impact
P Proposed Park Protection
S Scenic River Encroachment
V Increased Property Value
W Wetland Degradation
Z Zoning Pressure

18

Audiovisual Script

ENVIRONMENTAL ASSESSMENT

Slide Description	Narrative
1. Words: "Environmental Assessment"	Music
2. Mountain	Daughter: Daddy! Daddy! Father: What, little one? Daughter: Tell me again 'bout The Lorax.
3. Cover of book	Father: Like that story, do you? A man, Mr. Once-ler discovers a marvelous resource — Truffula trees with leaves as smooth as buttermilk. From the trees he makes THNEEDS (THings everyone NEED).
4. Dr. Seuss characters	But his factory pollutes the air and the water and attracts development, driving off the swamy-swans, the barbaloots, and the fishies that no longer have a place to live. Even the Lorax has to leave. Daughter: Oh, the poor Lorax.
5. Sewer crossing stream, and overflowing manhole	Father: You know, it is a lot like things today — some bad things always go with the good. For example, we build sewers to protect the community's health, but sewers can cause problems.
6. Houses	Philmont, New York, is no fairy tale. It is a small community of 1,900 persons,
7. Map	located in the rolling hills of Columbia County in upstate New York.
8. Houses	It is a nice little area of homes, schools, hard-working folks...
9. Project sign	AND a wastewater disposal problem. The local facilities plan calls for the construction of sewers to collect and transport wastes to a treatment plant.

10.	Sewer construction	This type of project can cause all sorts of impacts. Will the construction of the sewers contribute to a more healthful environment?
11.	Building with owner	John Linton, owner of a 19th century mill, is afraid that project blasting next to his building
12.	Building	will do more than cause a few bricks to fall from a rear wall.
13.	Stream	Will the project result in a clean stream that is again suitable for trout fishing?
14.	Sewer construction	Must the construction of sewers cause extensive dust and noise?
15.	Stores and torn up street	Will the project give an economic boost to the community?
16.	Man with binoculars	Questions about benefits and drawbacks can go on and on. The potential impacts of a project such as a wastewater treatment facility are almost endless. Despite their complexity,
17.	Words: "Environmental Impact · Primary · Secondary"	There are basically two kinds of impacts: primary and secondary. These names have nothing to do with their importance, but rather, describe how impacts occur. Also, both may be either beneficial (positive) or harmful (negative).
18.	Words: "Primary Impact" over rock drilling	Primary impacts are the <u>direct</u> effects of planning, constructing, or operating a project. A beneficial primary impact may be the economic savings as compared to another alternative. A negative impact would be the vibration from blasting rocks for sewer lines.
19.	Words: "Secondary Impact" over suburban development	Secondary impacts are <u>induced</u> or caused by a project. For example, a beneficial secondary effect may be the economic development stimulated by wastewater treatment facilities. A negative secondary effect would be undesirable growth along sewer routes.
20.	Diagram of sewer impacts	Indeed, the residents of Philmont, New York, today may be experiencing dust, noise, and inconvenience, but a whole array of secondary effects may come into play in the future. The trick is to anticipate them and to plan for them.
21.	Slide No. 1 (Title)	<u>Environmental</u> <u>assessment</u> is the process of

		identifying and evaluating impacts. It contributes to water resource planning in several ways.
22.	Benefits of environmental assessment, first highlight	The environmental assessment helps incorporate community values into plans. This input is vital when determining which cultural, material, and natural resources need to be protected.
23.	Benefits of environmental assessment, second highlight	It also promotes interdisciplinary decision making. This means that the judgements of various experts and laypersons who know about specific issues are taken into account before a decision is reached.
24.	Benefits of environmental assessment, third highlight	Therefore, an environmental assessment establishes a broad basis for determining the tradeoffs of a proposed project. How broad?
25.	Environmental factors	Because environment means surroundings, and surroundings vary around the country, just about anything can be involved: jobs, housing, aesthetics, animals, and water quality — among many other factors.
26.	Factors in water resource planning	In water resource planning, environmental factors make up an important dimension — just as important as monetary costs.
27.	Balance (scale) with word "myth "	However, it's a myth that the main tradeoff is environment versus dollars. The most environmentally-sound projects usually cost the least.
28.	Oregon coast	Music
29.	Words: "Environmental Assessment • Current Situation • Future Environment • Alternatives • Environmental Impacts • Mitigation Measures • Information Sources"	Programs have different regulations, and use different names for the analyses. Despite these differences, an environmental assessment involves the same basic elements: A description of the existing situation without a plan; a description of the future environment; the evaluation of alternative water quality or wastewater management plans; a discussion of the environmental impacts of selected alternatives; a description of measures to avoid or minimize anticipated adverse affects; a listing of information sources used in the document.
30.	Words: "Current Situation" over stream biological survey	In describing the current situation, analysts look at natural resources such as water quality,

31.	Ancient pueblo village	cultural and historical features such as housing, and
32.	Wetlands scene	environmentally-sensitive areas such as wetlands.
33.	Words: "Are all existing problems identified?" Are they properly assessed? Do the analysis methods make sense?"	Citizen advisory groups can help make sure that environmental information is not overlooked or misinterpreted, and that local preferences are reflected in the studies.
34.	Words: "Future Environment" over children in playground	A crucial component is determining the future environment both with and without plans.
35.	Words: "How realistic are the projections Are all significant factors included?" Are sufficient resources provided for the analysis?"	Citizen advisory groups can help decision makers make judgements about: how realistic the projections for population, stormwater, and other considerations are; whether or not any potentially important factor, such as neighborhood ethnic make-up has been overlooked; and whether or not adequat resources are given to the studies.
36.	Words: "Alternatives Evaluation" over aeration pond	The environmental assessment is used for comparing alternatives and selecting the final plan. Alternatives are evaluated, based upon their monetary costs; physical, legal, or institutional constraints;
37.	Words: "Environmental Impacts" over natural scene	and environmental impacts.
38.	Words: "Are all alternatives considered? Are they consistent with community goals?" Are all potentially significant impacts included?"	Citizen advisory groups should determine if all potential alternatives are considered; whether or not the alternatives are consistent with the goals of the community; and whether or not all potentially significant effects, both primary and secondary impacts, are considered.
39.	Words: "Mitigation Measures" over straw bale at drain	Of course, every plan will have some adverse effects. They must be avoided or reduced to a minimum through impact mitigation measures, such as erosion and sedimentation controls.
40.	Words: "What mitigation techniques are available? Are they feasible for the local area? Who will be responsible for implementation and enforcement?"	Citizen advisory groups can help determine what mitigation techniques are available; their feasibility for the community; and who will be responsible for their implementation and enforcement.

41. Words: "Information Sources" over documents	Various kinds of information go into an environmental assessment, such as census reports on population and housing, comments from public meetings, and topographic maps for natural resource data. All information sources must be identified, to demonstrate that nothing important has been overlooked, and that all decisions are reached in an open atmosphere.
42. Slide No. 29 (Title)	All of these elements from describing the current situation to listing the information sources used, contribute to an environmental assessment. This assessment may lead to the preparation of an environmental impact statement.
43. Man at drawing board	The impact statement process applies to both water quality management and facilities planning, but differences exist. For example, while environmental information is contained in the water quality plan,
44. Environmental impact statement process	for wastewater facilities planning the U.S. Environmental Protection Agency requires an additional environmental information document to be compiled. Based upon this information, the EPA makes an environmental assessment. This leads to either the issuance of a Finding of No Significant Impact, which essentially ends the investigation and moves the plan towards implementation, OR an environmental impact statement is ordered.
45. Cover of environmental impact statement	Impact statements are done only if significant impacts are anticipated, the project is controversial, or other circumstances warrant investigative depth. In many areas, impact statements are prepared concurrently with facilities plans. This piggybacking can save time and money.
46. Daybreak	Music
47. Citizens	The environmental assessment, the impact statement if it is needed — indeed, the entire planning process — involves citizens. Because the public has various interests and levels of expertise,
48. Drawing of onion with words "Environmental Report"	effective communication requires information in different arrangements: for example, reports organized in layers such as an onion with summaries for the general public, overviews for interest groups, and details for technicians.

49. Old man

Eric Seaman has lived in Philmont, New York, for over a half century. His wife claims that the anxiety of not knowing what was going on was very difficult for the man. Of course, better communications could help,

50. Street workers

but the problem in Philmont was deeper. Most citizens did not actively participate in planning the $5 million dollar wastewater project.

51. Advisory group

A citizens advisory group perhaps could have made a big difference. So, exactly how can advisory groups contribute to the environmental assessment?

52. Environmental Assessment among planning steps

An environmental assessment is an integral part of the planning process. It is not something tacked on the end just to satisfy the law. Environmental discussions are important from the time that problems are identified, until even after a plan is implemented.

53. Early planning steps with advisory group activities

Early in the planning process, goals are established and data are collected. Advisory groups can participate by:

Making news releases to spark community interest and establish on-going public support
Distributing fact sheets about the project
Communicating local ideas and values to the planners, and
Puting environmental issues on meeting agendas.

54. Late planning steps with advisory group activities

Advisory groups can also be actively involved in developing and evaluating alternatives by:

Inviting specialists to contribute their expertise
Using subcommittees to study issues
Touring facilities to see mitigation measures
Using informational meetings to learn about community needs, and environmental tradeoffs, and
Encouraging participation at public meetings and hearings.

55. Planning steps with an additional advisory group activity

Even after the plan is selected, opportunities exist for advisory group involvement. For example, the final plan, design specifications, and construction program can all be reviewed for their attention to environmental issues.

56.	Man	Of course, there is no guarantee that citizens will take advantage of these opportunities. Thomas Hotalen, Philmont resident with son Jeremy says the people, indeed, comment about the disruption and cost of the wastewater project, (because) but that many people appear even more concerned about the cost of cable TV.
57.	City and bay	Music
58.	Slide No. 16 (Binoculars)	Father: So you can see little one, that just as the cutting of the Truffula trees led to all sorts of things, impacts can go on and on ....
59.	Slide No. 17 (Impacts)	That there are two basic types of impacts: primary and secondary
60.	Slides No. 13 & 14 (stream and sewers)	Some are negative and others are positive, but benefits are always accompanied by drawbacks.
61.	Benefits of environmental assessment	That an environmental assessment helps us understand these impacts ....
62.	Slide No. 29 (Elements)	What an environmental assessment is made up of ....
63.	Slide No. 33 (Questions)	Important questions for advisory groups ....
64.	Slide No. 44 (Statement process)	How the assessment can lead to the writing of an environmental impact statement
65.	Slide No. 48 (Onion)	That these documents <u>and</u> citizen participation depend upon effective communications.
66.	Slide No. 53 (Activities)	And that there are plenty of opportunities for citizen advisory groups to participate in environmental assessments.
67.	Horses	Father: But your face has a frown. What is the matter? Daughter: All this still doesn't tell me what happened in the Lorax, daddy. What <u>did</u> happen to it? Father: Go ask your mother.
68.	Credits (Penn State University)	Music
69.	Slide No. 1 (Environmental Assessment)	

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Working for Clean Water is a program designed to help advisory groups improve decision making in water quality planning. It aims at helping people focus on essential issues and questions, by providing trained instructors and materials suitable for persons with non-technical backgrounds. These materials include a citizen handbook on important principles and considerations about topics in water quality planning, an audiovisual presentation, and instructor guide for elaborating points, providing additional information, and engaging in problem-solving exercises.

This program consists of 18 informational units on various aspects of water quality planning:

- Role of Advisory Groups
- Public Participation
- Nonpoint Source Pollution: Agriculture, Forestry, and Mining
- Urban Stormwater Runoff
- Groundwater Contamination
- Facility Planning in the Construction Grants Program
- Municipal Wastewater Processes: Overview
- Municipal Wastewater Processes: Details
- Small Systems
- Innovative and Alternative Technologies
- Industrial Pretreatment
- Land Treatment
- Water Conservation and Reuse
- Multiple Use
- Environmental Assessment
- Cost-Effectiveness Analysis
- Wastewater Facilities Operation and Maintenance
- Financial Management

The units are not designed to make technical experts out of citizens and local officials. Each unit contains essential facts, key questions, advice on how to deal with the issues, and clearly-written technical backgrounds. In short, each unit provides the information that citizen advisors need to better fulfill their role.

This program is available through public participation coordinators at the regional offices of the United States Environmental Protection Agency.